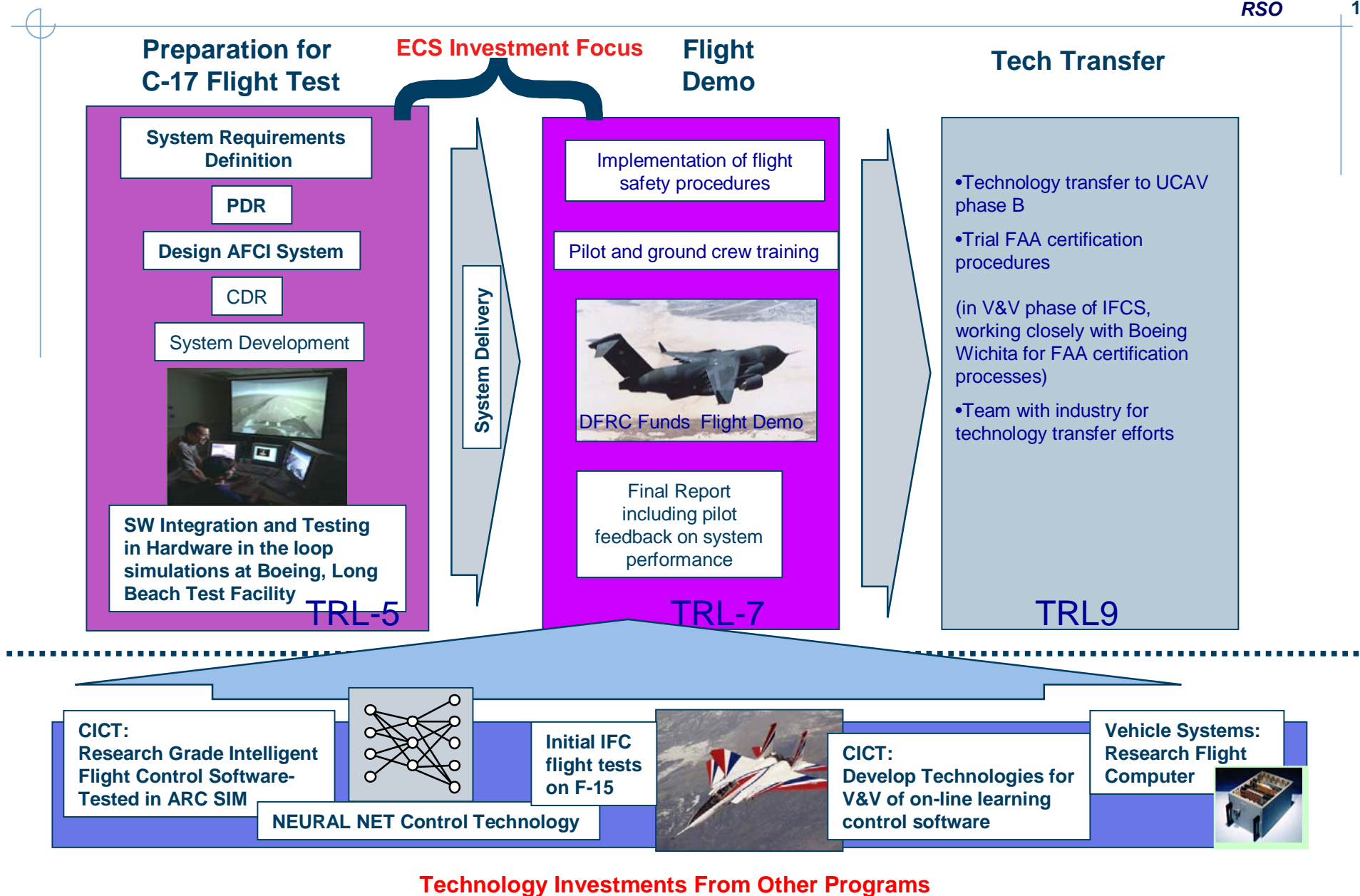




4.3 RST Technical Approach

4.3.1 Sub-Product AFCI



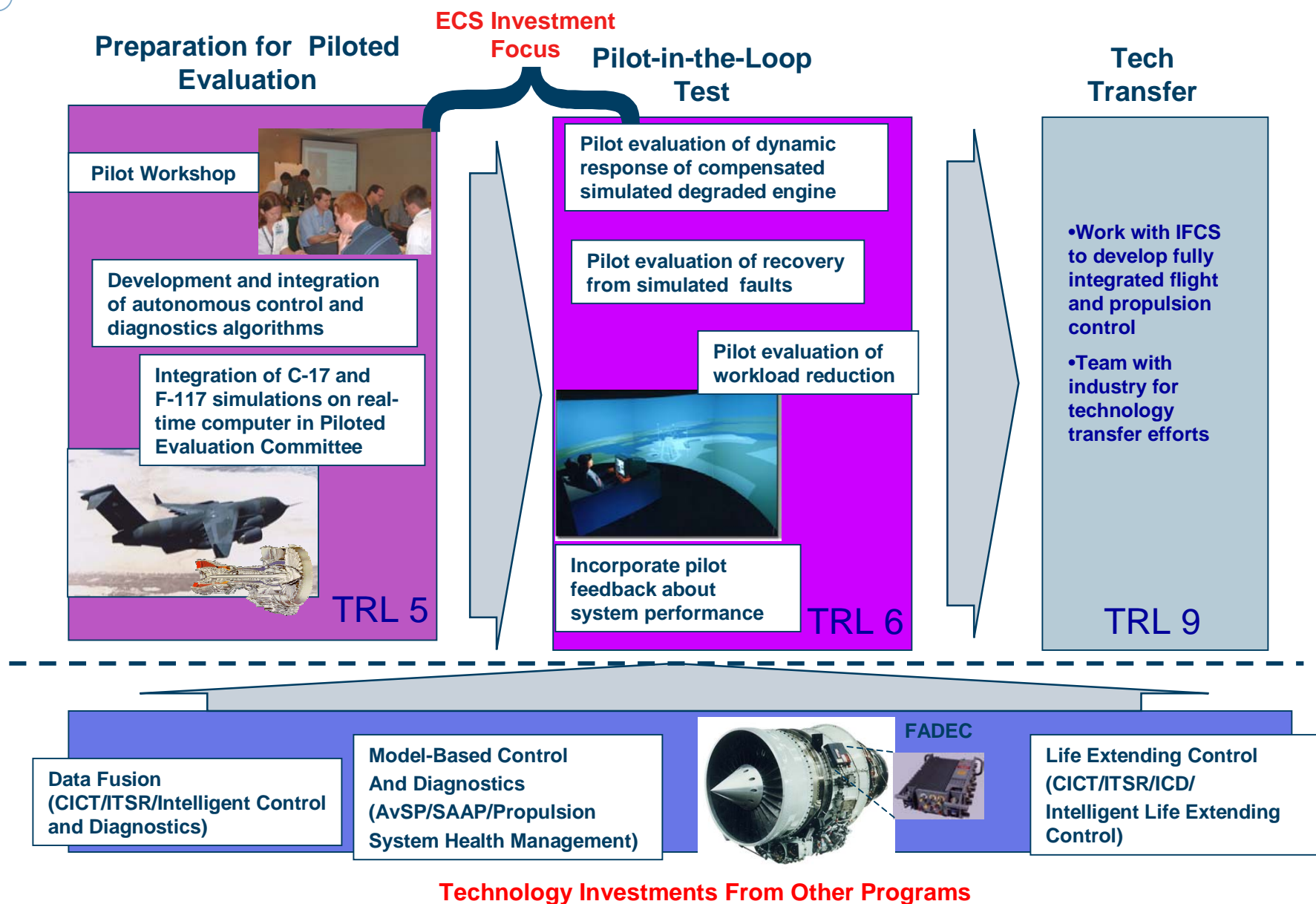


4.3 RST Technical Approach

4.3.2 Sub-Product Autonomous Propulsion System Technologies



2





4.3 RST Technical Approach

4.3.3 Sub-Product Spacecraft Mobile Monitor



RSO

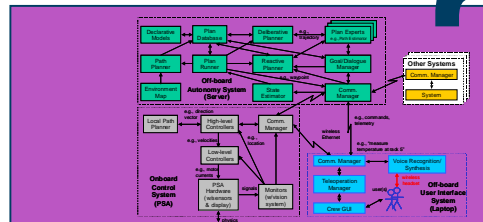
3

ECS Investment Focus

Technology Maturation & Integration

Ground/Flight Experiments

Tech Transfer



Development and integration of autonomous control and diagnostics algorithms

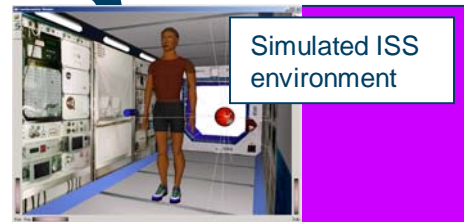
Test scenarios for integrated technology performance evaluation

Evaluation of crew workload & risk reduction



TRL 5

Development, Evaluation, and Integration of Spacecraft Mobile Monitor components



Simulated ISS environment

KC135



Micro-gravity flight test

TRL 6

Simulated micro-gravity test facility & ISS Module Mockup

- Work with Mission Operations to develop flight validate autonomous mobile monitoring on ISS
- Team with UAV efforts in NASA, industry & military
- Education and outreach to encourage students to prepare for careers in science, technology, engineering and mathematics

Model-based Flexible Planning & Execution (CICT/IS/Automated Reasoning)

Model-Based Diagnostics (CICT/IS/Automated Reasoning)

Real-time Stereo-vision-based Localization & Obstacle Avoidance (SRI International/ DARPA)



Mockup & 2D Prototype (CETDP/Automation)

Technology Investments From Other Programs